Ethical Considerations in Organ Transplantation  
By Julie Watt

While one can find instances of organ transplantation documented in human history reaching back over two thousand years, its practice was not common and most often not successful due to rejection until the last few decades. Now that the capability is here, the demand is great; however the current supply is low. Increasing the supply to meet this demand is the source of much of the controversy and policy considerations surrounding the procurement of organs. Likewise, the allocation of these organs receives much attention because while the supply is low people in need die while waiting. Various sources for viable organs exist which could make allocation a non-issue, but as procurement from these sources is explored the only question bigger than can we do it, is should we do it. The answers to these ethical concerns will determine who will get the next organ and where it may comes from.

The first documented organ transplant, also the first living donor transplant, took place in Boston in 1954 between identical twins sharing kidneys. In 1963 the world’s first liver transplant was performed in Denver. Shortly thereafter in 1967 the first heart transplant was performed in Cape Town, South Africa. During these years, many patients were dying due to immunity-mediated rejection. In order to combat this problem, anti-rejection medications acting as immunosuppressants were formulated. The first such medication, cyclosporine, was released in 1983. In 1989, the first successful living donor liver transplant was performed using split liver transplant (or just part of an organ).
The United Network for Organ Sharing (UNOS) was established in 1977 as the first computer based organ matching system. In 1984 UNOS was incorporated as a non-profit scientific and educational organization. Two years later UNOS received the federal contract to operate the Organ Procurement and Transplantation Network (OPTN). The OPTN is a transplant network established by the United States Congress under the National Organ Transplant Act (NOTA). NOTA stated that OPTN was to be operated by a non-profit, private organization under federal contract with the Department of Health and Human Services. UNOS’s three objectives are to (1) collect and manage data about every transplant occurring in the United States; (2) facilitate the organ matching and placement process using UNOS-developed data technology and the UNOS Organ Center and (3) bring together medical professionals, transplant recipient, and donor families to develop organ transplantation policy.²

Organ Procurement Organization, or OPOs, are non-profit members of UNOS responsible for approaching families about the option of donation when they have lost a loved one; evaluating the medical suitability of potential donors; educating the public about organ donation; and coordinating the preservation, recovery, and transportation of organs procured for transplantation. There are fifty-eight OPOs nationwide. They have undergone much scrutiny in recent years because some consider the way they approach families unethical. Often OPO representatives, usually nurses and social workers, will approach family members minutes after the death of a loved one or in some cases, even before the patient has died. OPOs first try to match donors to recipients in the local area. If no match can be found, the organ is then offered to patients in a regional area or zone.
Lastly, the organ is offered to anyone in the United States who is a potential match if no local or regional match can be made.\textsuperscript{2}

While UNOS maintains the nationwide list of patients awaiting organ transplants, it is left up to transplant evaluation teams at the 256 transplant centers nationwide to decide who gets on the list. Patients may be listed at more than one transplant center. This is sometimes beneficial to those who live a long distance away from the transplant center, as distance the patient may need to travel to receive the waiting organ is a factor in the matching process. Other factors including in the matching process include the body size and blood type between donor and patient, psychosocial factors, and the urgency of transplant for the patient.\textsuperscript{2}

There are many psychosocial criterias that go into assessment of transplant candidacy, but there are a few that the UNOS Ethics Committee has chosen to specifically address: life expectancy, organ failure caused by behavior, compliance/adherence, repeat transplantation, and alternative therapies. While it is not exactly “fair”, we must determine set points for transplant candidacy due to the worldwide shortage of available organs. While medical professionals honor the moral obligations to extend life and relieve suffering, we must also recognize the current situation in the organ supply.\textsuperscript{2} Typically medical evaluation is the first criteria that goes into determining transplant candidacy. Then psychosocial and geographical considerations are taken.

Members of the UNOS Ethics Committee agree that transplantation should be carefully considered if the candidate’s life expectancy is considerably less than the expected life span of the organ. Advanced age or co-morbid conditions may lower a
candidate’s life expectancy. Past alcoholism, drug abuse, smoking, or eating disorders contribute in many cases to advancement of disease and organ failure, leading to organ transplant requirement. The general consensus is that past behavior should not be considered a sole basis for excluding transplant candidates. It is however, factored into the evaluation process. Likewise, transplantation should be considered very cautiously for individuals who have demonstrated serious, consistent, and documented non-compliance in current or previous treatment.²

Sometimes an organ transplant will fail due to organ rejection or other factors. In such cases, individuals must be reassessed for re-transplantation. Is it fair for someone to get a second liver when there is someone else waiting who hasn’t received his or her first transplant? Since the long-term survival of recipients declines with rejection, their candidacy should be re-evaluated prior to a repeat transplant. Alternative therapies, such as surgery or chemotherapy should also be strongly considered prior to transplant listing.²

The current policies regarding organ transplantation come largely from two laws. The first was the Uniform Anatomical Gift Act of 1968. This law was adopted by all 50 states and granted individuals the right to decide before death whether they wanted to donate their organs or not. The second law was the Organ Transplantation Act of 1984, which formed UNOS and sought to encourage organ donation.³ Both of these laws specifically prohibited the buying and selling of organs.² Currently, there are 97,884 patients on a waiting list for an organ transplant in the US.¹ In 2006, 6000 patients died while waiting for an organ transplant.⁴ Many proposals have been put forward to increase organ donation.
Under the current system, even though an individual may decide before death to
be an organ donor, the decision is realistically left up to the surviving family when they
are asked for permission by an OPO. The problem with this system is that currently only
one third of cadaver organs are available for organ transplant. One proposal for
increasing organ supply is by publicly honoring donors and/or their families. This
carries with it its own ethical considerations, as one might wonder if the donor was giving
simply for the recognition and not done in the spirit of true altruism. But is motivation
for donation an ethical dilemma so long as consent was granted willingly? In the case of
honoring, motivation will not likely raise enough red flags to be a deal breaker.

Another proposal for increasing organ supply is legalizing organ markets in which
either individuals before death or their families can privately sell their organs once they
are deceased to a waiting patient. The cause for concern here is clearer. If private parties
can buy organs from individuals then organs would go to the highest bidder, a conclusion
being that wealthier individuals have a greater right to life. Compensation for cadaveric
organs would be clearly unethical due to the fact that the organ sold may have otherwise
been donated reducing the pool of organs in the UNOS system.

The next proposal would include public compensation, which might include
reimbursement of funeral expenses to the surviving family of the donor; tax rebates or
credits; or direct cash payment. Procurement and allocation of organs would still be
controlled by UNOS. The donation is still undirected, its destination determined by need-
based guidelines as opposed to income. While the donation may not be as profitable as in
an organ market, some compensation would provide enough incentive, which should
increase the organ supply in UNOS. There are however problems with public
compensation as well: the tension it would create between family members over whether or not to take the money, as well as changing organ donation from a civic duty to a business transaction.³

The pros and cons of financial incentives for organ donation have been weighed heavily for the past two decades. The primary argument for compensation would be to increase organ donation, as the rate of patients needing organs is increasing by 20% every year, while the number of donors barely increases by 10% each year. The main problem with legalizing compensation for organ donation, however, is what many believe to be a slippery slope: the human body will become a commodity to be bought and sold to the highest bidder. Two UNOS public surveys completed in the early nineties found approximately one-half of Americans to be in favor of financial incentives for organ donation. Those that favored the idea preferred either a set amount as reimbursement toward funeral expenses or payment to a charity of the donor’s choice. The number of people in agreement decreases with age; younger people tend to be more in favor of the idea while the elderly are less in favor.²

Lastly is the most radical proposal of “routine retrieval,” or presumed consent, in which it becomes standard practice to retrieve all useable organs after death unless individuals or family members expressly request that their organs not be retrieved. This method has a dual aim: to procure more organs for donation while at the same time avoiding the painful task of requesting to remove useable organs from a deceased person. This practice has been tried in several European countries with mixed results.⁴

Before delving into more complicated organ donation practices, such as living donors, there are ethical concerns with cadaveric donation, which at first glance seems
straightforward. Three-quarters of transplanted organs are recovered from deceased donors. According to Arthur Caplan, a bioethicist from the University of Pennsylvania, “The greatest fear the public has when it comes to organ donation is their loved one will not receive aggressive treatment and will wind up having their death hastened because of the zeal people have to get organs.” Although we have no way of knowing how common this feared practice is, we do know that doctors are sometimes pressured by OPO representatives to declare a patient brain dead before the necessary tests are done. A neurologist at a hospital in California said an OPO representative had pressed her this summer before the appropriate tests had been done to declare the dying donor dead. In many hospitals, OPO representatives routinely comb through patients’ records looking for potential donors.

The question of when organs can be removed from a dying or dead donor arises. Donation either occurs via brain or cardiac death. Brain death is more easily understood. It is the pronouncement of a patient dead on the basis of neurologic criteria, when they are on ventilators and their hearts continue to function. Donation after brain death accounted for 92% of all cadaveric donated organs in 2006. Cardiac death is not so easily defined. The typical definition is irreversible cessation of circulatory and pulmonary function. This is usually the case of patients on a ventilator as the result of devastating and irreversible brain injuries. Although such patients are near death, they are not technically dead. This gray area is what causes ethical concerns in donation after cardiac death, or DCD.

Because the heart can sometimes spontaneously restart after a few minutes, most doctors wait five minutes before removing organs from a DCD patient. In some cases,
organs are removed as little as 75 seconds after the heart stops. This is done, defenders say, in an effort to salvage as many organs as possible. Donated organs quickly decline when they are outside the body. Some hospitals are opting out of the DCD program, saying they are too often pressured by OPOs. In addition to giving dying donors morphine and valium as life support is withdrawn, often heparin is given to preserve the organs that are to be donated. Critics say this hastens death in some instances.\(^7\)

Organ donation by living donors is increasing in prevalence. According to UNOS, today half of all kidney donors in the United States are living. Living donation presents a unique ethical dilemma in that physicians must risk the life of a healthy person to save or improve the life of a patient. There are three categories of living organ donation: directed donation to family or friends; nondirected donation; and directed donation to a stranger. All three present different but equally difficult ethical concerns.\(^9\)

Most living donations come from a family member or close friend. There is the concern that donors are doing it out of a feeling of obligation; or that they will be looked down upon by their loved ones if they do not wish to undergo such a serious operation. For this reason, most transplant centers are willing to identify a plausible medical excuse for an unwilling donor so that they can bow out of the tense situation. Also, many people are often willing to donate an organ without a second thought of danger to themselves. Physicians are therefore obligated to prevent people from making potentially life-threatening sacrifices unless the chance of a successful transplant is proportionately large.\(^9\)

Is it fair if someone happens to have a family member or friend who is a match for him or her? Is someone awaiting an organ and is much sicker but has no close
acquaintances that are able to donate less deserving? These are serious ethical concerns that arise with directed donation to family and friends. There are some in the medical community that believe the practice should not be allowed; all available organs should be thrown into the UNOS pool and should go to the patient in most dire need of that organ. Reversely, is it fair to not allow a father to donate bone marrow to his daughter?

Nondirected donation, in which the donor gives an organ to the general pool to be transplanted into the recipient at the top of the waiting list, has different ethical dilemmas associated with it. Although rare, radical altruism sometimes accompanies nondirected organ donation. There was one recent case which involved a man who was obsessed with giving away anything he possibly could; including his money, possessions, and organs. This is why not only recipients but donors must undergo a psychological evaluation prior to transplant.

Directed transplant to a stranger comes with the same ethical concern for radical altruism with a few additional concerns. This practice first started at least 15 years ago, and has continued to grow, especially with the emergence of the website www.matchingdonors.com in 2004. The website is a 501(c) 3 nonprofit organization founded by two physicians with the goal of giving people in need of transplant surgery an active way to search for a donor. There are currently 4470 potential donors registered on the site. Their goal is to increase the number of organ transplants and to improve awareness of organ donation. Donors are made aware by the website that financial gain from their donation is illegal in the United States.

Advertising is also seen for organ donors on television, billboards, and radio stations. Although such advertising is not illegal, it has been strongly discouraged by the
transplant community. This is because the practice has been called unfair by some in that those patients who cannot afford a highway billboard or radio advertisement may have a lessened chance of receiving an organ. Also, those who have the knowledge to solicit organs on the Internet and who have the most compelling story also may have an unfair advantage over those patients who may be in more dire need of an organ. In some cases, donors chose the recipient based on race, religion, or ethnic group. In one such case, a brain dead Florida organ donor’s family insisted that his organs only be donated to whites. Although the family’s wishes were respected, the state of Florida subsequently passed a law prohibiting patients or their families from placing such restrictions on donation.  

A common problem with living donation is the lack of care that donors sometimes receive. Most hospitals follow donors for less than a year. New, voluntary guidelines recently released by UNOS this fall seek to limit donors that have certain health problems. This reflects a tension between the need for organ donors and the concern that physicians may be accepting substandard patients, putting both donor and recipient at unnecessary risk. The guidelines include four parts, the first of which aims to properly screen and follow potential donors. The new rules suggest that the following people should not be allowed to donate a kidney:

* Anyone under the age of 18
* Hypertensive (blood pressure greater than 130/90 for those younger than 50)
* Diabetics
* Obese (body mass index greater than 35)
* HIV positive
* Infected with Hepatitis B or C
* Diagnosed with coronary artery disease or chronic lung disease and need oxygenation
* Measured to have kidney function below a certain level
* Diagnosed with uncontrolled psychiatric illness
There are conflicting feelings about the new guidelines set forth by UNOS. Most critics believe that UNOS shouldn’t be telling doctors how to practice medicine, believing the guidelines are too specific. “Dictating the practice of medicine and surgery is not the role of [UNOS], let alone in the best interests of patients,” said a letter from the American Society of Transplant Surgeons. Some surgeons also worry that insurance companies will use the guidelines to punish doctors who don’t follow them. Some believe that surgeons need to take greater care in accepting living donors. Even if donors fully consent to overly risky operations, doctors shouldn’t do them. After all, the oath physicians take is “first, do no harm.” But even those in the transplant community who believe this, think that the guidelines are too strict. Should someone whose blood pressure is five points too high be kept from donating to their ailing sibling to save their life?

While 90% of Americans support organ donation, only 30% have signed up to be organ donors. Let’s face it; Americans rather like the idea of getting something for nothing. Such is the case of knowing that they don’t have to donate their organs in order to receive one in case they should someday need one. In order to combat this selfish mentality, David Undis launched Lifesharers, a non-profit, no-fee network of about 9,000 members nationwide who have pledged to donate their organs when they die. What’s the catch? The organs only go to other Lifesharer members. To prevent members from signing up only when they become ill, you must sign up at least 180 days before you’re ill.

While the idea seems like a good one at first glance, is this what we as a nation are about? “I’ll scratch your back if you scratch mine.” What if, by chance, you become
ill 179 days after you sign up? Well, that’s just tough luck. A drawback to the network, Undis admits, is that in order for it to really work, 85% of Americans would need to sign up, something that’s not likely to happen. Some people don’t sign up to be organ donors because of religious beliefs. It would be unfair to completely disregard this. Also, many poor people may sign up, but due to lifelong poor health status, will never be able to donate their organs.

Another concept that is quickly gaining attention is kidney swaps. This occurs when, for instance, a husband wants to donate a kidney to his wife but they have different blood types. Across the country, there is another couple with the same problem. Hospitals team up and one husband donates one of his kidneys to the other man’s wife on the other side of the country. The surgeries are done simultaneously so donors will not back out of the deal once their loved one has received their kidney. Donors and recipients report to the hospital at specific, staggered times. Doctor’s don’t want them to meet; worrying it might prevent the transplants from occurring.

The first kidney swap was done in 2000, and in 2006, over 70 were completed. Computer experts working with economists are developing programs to optimize matching, using similar mathematical techniques used for major-league baseball schedules, airline departures, and online driving directions. Kidney swaps are growing in frequency, but slowly. Part of this reason due to the concern that the swaps may violate a federal ban on selling organs. It doesn’t seem like a valid reason, however, since there is no “selling”, or transferring of money, between donors and recipients. I would argue most consider kidney swaps a giving donation, similar to any other living organ donation. The other reason for the slow growth of kidney swaps is that in many cases, there is lack
of cooperation between transplant centers, each wanting to boost their own ego and have the transplant done at their own center. Sometimes no agreement can be reached so the kidney swap sadly does not take place.  

A practice that is gaining popularity is creating “savior siblings” in the laboratory. Embryos are tested to see if they would be a good match to their ailing siblings, to whom their stem cells are donated. While most of the embryos who are not matches, are frozen for later use, some ethicists say they could end up being discarded. This is upsetting to a lot of ethicists, including the U.S. Conference of Catholic Bishops, calling the method of creating savior siblings “…a search and destroy mission.” While a poll taken by Johns Hopkins University found most Americans in approval of the system, most were at the same time worried it could get out of control, preselecting preferred traits in a child. However, some find nothing wrong with the practice of creating savior siblings. Many, if not most, couples today have children because they want their first child to have a playmate, to please waiting grandparents, or simply because they think it’s part of life. So what’s wrong with creating a child to save the life of another?

There are currently over 47 million Americans, or 16 percent of the population, without health insurance. Millions of others are underinsured. In the world of organ transplantation, the grim reality is that sometimes this means those 47 million plus who are uninsured or otherwise unable to pay are denied organs because hospitals can’t afford to foot the bill. Not only is the cost of the surgery an issue, but recovery time and anti-rejection medicines add to the overall cost as well. The estimated cost of a liver transplant in the United States is between $75,000 and $250,000. The cost drastically varies because the recovery time needed by recipients is highly variable.
Is it fair that the uninsured or poor cannot receive an organ as easily, as say, Bill Gates? Twenty-five percent of all organs come from the uninsured, according to estimates by the authors of “Health Insurance and Cardiac Transplantation: A Call for Reform.” Some agree that there is unfairness in organ transplantation for the uninsured but no more so than for the poor in other areas of medicine or life in general. Most ethicists agree that it is unethical not to provide organ transplants for the poor, but only because it is unethical to deny the poor health care in general.

Sometimes ill patients awaiting an organ transplant or their families will travel to other countries to purchase an organ, frustrated by the wait time and desperate for an organ that might save their life. This practice is called transplant tourism, which bypasses laws, rules, and procedures of all countries involved. Transplant tourism by design undermines the ethical principle of non-maleficence, or “doing no harm.” The UNOS Ethics Committee condemns the practice. There are often negative consequences for both vendors (sellers) and recipients (buyers) alike.²

Xenotransplantation is any procedure that involves the transplantation, implantation, or infusion into a human recipient of live cells, tissues, or organs from a nonhuman animal source.¹⁹ It is another method that is being researched for bone marrow or organ transplantation. Attempts have been at cross-species transplants since the late 17th century, with pig insulin first used in diabetics in the 1930s. The procedure has been successful in many patients, including an AIDS patient who received a baboon bone marrow transplant in 1995 and is alive and well today.²⁰ Research for xenotransplantation is ongoing with many ethical considerations involved. Again, proponents of
xenotransplantation aim at increasing the supply of organs, tissues, and/or cells available for transplant.

A substantial problem with xenotransplantation is the potential for cross-species infection by retroviruses, which may then spread to the general human population. Animal rights activists also are concerned for the animals being used for xenotransplantation, since in many procedures, the transplanted tissue does not last very long. For this reason, researchers and regulatory agencies have agreed pig organ transplants must first show survival rates of at least three to six months in nonhuman primates. In addition, xenotransplantation involves breeding genetically modified pigs, breeding them in special condition, and killing them to harvest their organs. However, researchers say it is better to use animals to save the life of a human than for food.\textsuperscript{20} For xenotransplantation there must be a risk vs. benefit analysis. For an ailing heart failure patient, a pig heart may be a last chance at a new life.

Obviously organ transplantation has numerous ethical concerns associated with it. These include transplant recipient evaluation, motivations of donors, and the future of organ transplant and how to increase the number of organs available for transplant via morally and ethically sound methods. Organ transplants are one of the few truly life saving procedures available to us. Once we are gone, is it not morally just to let one or more people live as we go on?

\textit{Edited by Nisrine Kazoun 1/2008}
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